BS ISO 21896:2020

BSI Standards Publication

Paper, pulp, and recycling — Decolouration test of dye coloured paper products and paper products printed using dye inks

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National foreword

This British Standard is the UK implementation of ISO 21896:2020.

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A list of organizations represented on this committee can be obtained on request to its secretary.

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CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
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Foreword

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This document was prepared by Technical Committee ISO/TC 6, *Paper, Board and Pulps.*

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Introduction

Large scale recycling of paper and board is now used worldwide since recycled fibres make up approximately half of the fibre resources needed for global production.

Graphic paper products, such as newspapers, magazines, office paper, etc., are approximately one third of the paper recycled in Europe, being about to 15 million tons. They are normally recycled by using a deinking process, for removal of printing inks. The basic feature is the detachment of the ink film from the substrate, its fragmentation into a suitable particle size and its removal from the pulp slurry. The latter is done predominantly by flotation, in special cases substituted by a washing process. For higher qualities of the deinked pulps, deinking is complemented by oxidative and/or reductive bleaching in order to further enhance the optical properties.

The quality of the pulp obtained is characterized by its brightness/colour, cleanliness, mechanical properties and ash content. It depends both on the type of paper and board for recycling being recycled and the treatment applied.

A very small percentage of graphic paper products is produced using dye inks and dyed papers, which are typically not able to be removed by deinking, but can be brightened and decoloured in the bleaching stage(s).

This document provides a laboratory test method for the decolouration capability of products, thus allows assessing a dyed paper or a graphic product printed with dye inks. On industrial scale, bleaching can act as a supplement to deinking but not as a substitute. The major reason is that raw material for deinking is nearly always a mix of paper grades and printing as well as converting technologies. Bleaching is only effective for a small portion of it.

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